

DECLARATION UNDER 37 CFR § 1.132

I, Judson Massingill, hereby declare as follows:

1. I am an adult over the age of 21, with an address of 1911 Antoine Drive, Houston, Texas 77055.
2. I am familiar with the internal combustion automotive engine industry, and in particular with the "after-factory" modification of automotive engines industry.
3. I am the owner of the nationally recognized and accredited School of Automotive Machinists (<http://www.samracing.com>), located in Houston, Texas, which I established approximately 21 years ago. The school's curriculum is dedicated to training machinists for the high-performance automobile industry, with graduates working for many of the top race teams in the country.¹ I have worked in the performance automobile industry for approximately 40 years building and racing performance engines. I was named Rookie of the Year in the 1970s for the GT1 road racing class of the Sports Car Club of America (SCCA). I am a member of the Society of Automotive Engineers (SAE) and a National Institute for Automotive Service Excellence (ASE) certified machinist.
4. I am acquainted with Jeff Liebert and understand that he has a patent application pending titled CYLINDER SLEEVE SUPPORT FOR AN INTERNAL COMBUSTION ENGINE. I am not related to Jeff Liebert, and not being paid or receiving any other credit for the statements I am making here.
5. I have experience with the "Superdeck 2" Cylinder Sleeve Support Plate developed by Jeff Liebert for Electromechanical Research Laboratories, Inc. (ERL), hereinafter referred to as the "Superdeck 2 Plate," and installed it in an engine with great results. The engine I modified with

¹ See, CHEVY HIGH PERFORMANCE MAGAZINE, July 2006 (reproduced at <http://www.samracing.com/newsandarchives.html>), GM HIGH-TECH PERFORMANCE MAGAZINE, September 2001 (reproduced at <http://www.samracing.com/newsandarchives.html>), and School of Automotive Machinists brochure (available at http://www.samracing.com/School%20Info/SAM%20Racing%20Folder1_4-4-06.pdf).

the Superdeck 2 Plate was a General Motors V8 gasoline engine. The V8 engine included eight (8) cylinders arranged in two (2) banks of four (4) cylinders, where the four(4) cylinders in each bank were arranged in a row. The following is a description of the Superdeck 2 Plate with which I am familiar:

An apparatus for use within an internal combustion engine having an engine block with a block connection surface (top face of the block) and a cylinder bore. The engine also has an engine head with a head connection surface (bottom face of the head), and the engine block and the engine head are connected to one another along their respective connection surfaces (the head is on top of the block). The engine also has a cylinder sleeve mounted in the cylinder bore, and a reciprocating piston positioned within the cylinder sleeve.

The apparatus includes a plate (Superdeck 2 plate) that is connectable between the block connection surface (top face of the block) and the head connection surface (bottom face of the head) for substantially overlaying the block connection surface (top face of the block) and for substantially underlaying the head connection surface (bottom face of the head). The Superdeck 2 plate also has a boss portion, where the boss portion is mounted substantially around and laterally supports the cylinder sleeve outer surface portion.

6. I have installed at least one Superdeck 2 Plate in an engine as follows:

The original cylinder liner sleeves were removed from the engine. The cylinder block was bored at each cylinder location to receive new cylinder liner sleeves of greater bore diameter than the originals. The Superdeck 2 Plate was installed between the top face of the cylinder block and the bottom face of the cylinder head. A custom gasket was installed between the bottom of the Superdeck 2 Plate and the top of the engine block. This gasket is compliant and serves to seal oil and water passages. The Superdeck 2 Plate has a boss (flange) portion projecting down from the bottom of the plate into a space in the cylinder block that is adjacent to the upper ends of the new cylinder sleeves. The boss (flange) portion substantially fills the space, and partially surrounds the outer surface portions of the new cylinder sleeves that are adjacent to the upper ends of the new cylinder sleeves. The boss (flange) portion laterally (horizontally) engages the block and the outer surface portions of the new cylinder sleeves, and thereby laterally supports the new cylinder sleeve outer surface portions adjacent the upper ends of the new cylinder sleeves.

7. People replacing original engine cylinder sleeves to increase automobile performance by using new larger cylinder sleeves have had various problems, such as overheating engines, blown head gaskets, warped cylinder heads, distorted cylinder sleeves and other engine damage related to these problems. Others have attempted to address these problems. For example, "block guards," which are metal rings mounted around the top portions of cylinder sleeves, and traditional "deck

plates," which are metal plates mounted between the engine block and head, and used to enable increased engine displacement, have been used to address at least some of these problems. However, neither the block guard nor the deck plate, alone or in combination, has been able to provide the desirable characteristics that are present in the Superdeck 2 Plate described above. For example, block guards do not provide sufficient lateral support to support the cylinder sleeves under high power conditions and their use can result in loss of power and increased wear. Additionally, block guards tend to disperse and decrease the pressure directly exerted by the engine head on the cylinder sleeves, thereby decreasing the sealing pressure of the combustion chamber and increasing the likelihood of combustion gasses escaping from the combustion chamber. Before now, I have not known or heard of anything that has given the great results that I have seen with using the Superdeck 2 Plate.

8. One beneficial feature of the Superdeck 2 Plate is that it provides a large amount of lateral support for the cylinder sleeves. By having the large surface area of the plate portion sandwiched between the upper surface of the engine block and the lower surface of the engine head, the Superdeck 2 Plate is securely held within the engine and capable of resisting high lateral forces without moving in relation to either the engine block or the engine head. As such, the boss portion provides a degree of lateral support to the cylinder sleeves greater than previous devices, such as a block guard.


9. Another beneficial feature of the Superdeck 2 Plate is that it does not dissipate or diminish the pressure between the engine head and the cylinder sleeves, and thereby prevents the escape of combustion gasses and the associated power loss. When installed, high pressure between the engine head and the cylinder sleeves is maintained with the upper surface of the Superdeck 2 Plate remaining below the top of the cylinder sleeves.

10. Before the advent of the Superdeck 2 Plate, various sleeving systems were used to modify engines; however, these sleeving systems frequently resulted in various problems, such as internal coolant leaks, blown head gaskets, and a general lack of repeatability. Horsepower levels were generally limited to a few hundred horsepower using these systems. Since the advent of the Superdeck 2 Plate, the amount of power that can be generated in a modified stock engine has

dramatically increased. The Superdeck 2 Plate is now an industry leader for producing a reliable, modified engine with high power. The stability, rigidity and reliability afforded by the Superdeck 2 Plate have allowed for large gains in engine power.

11. I think that Jeff Liebert has recognized a need for a cylinder sleeve support that securely mounts to an engine while laterally supporting and cooling the cylinder sleeves, especially cylinder sleeves extending above the surface of the engine block, while maintaining a high sealing pressure between the engine head and the cylinder sleeves. With his innovative Superdeck 2 Plate, he has solved the problems of deformation of the cylinder sleeves and escape of combustion gasses (especially under high power), while permitting circulation of fluids between the block and the head along original pathways. Engines modified with the Superdeck 2 Plate have power and durability characteristics, especially under high power conditions in racing events, that exceed other engines that have been modified to increase the stroke and power of the engine but without using the Superdeck 2 Plate.

12. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.


Judson Massingill

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Date

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